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ABSTRACT

Preparing America's children to start school ready to learn will depend in large part on the availability, quality, and affordability of early education and care. Research conducted since the 1970s indicates that, despite increases, the supply of formal early education and care programs is not adequate to meet the needs of all families. Many centers and regulated child care programs are operating at capacity, while many parents of preschoolers report that they would prefer another type of care. Formal education and care options appear to be more limited for children at risk of later school failure. Average group sizes, child-staff ratios, and teacher turnover have increased since the late 1970s, while teacher qualifications have improved dramatically. The quality of care has decreased since the 1970s in order to keep parent fees affordable. First, this paper presents data from the Profile of Child Care Settings (PCS) study on the availability and adequacy of options for formal care, utilization rates, parental satisfaction with care, admission policies, recruitment strategies, average enrollment, and enrollment of children from low-income and minority families. Next, other studies on the availability, quality, and affordability of formal early education and care are reviewed. Information is presented on: (1) average group sizes in centers and regulated family child care; (2) child-staff ratios in both settings; (3) caregiver qualifications in centers and regulated home-based settings; (4) turnover among caregivers; (5) organizational sponsorship of home-based providers; (6) parent fees; and (7) revenues from government sources. (AC)

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SCHOOL READINESS: THE CONTRIBUTION OF FORMAL EARLY EDUCATION AND CARE PROGRAMS

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March 31, 1992

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SCHOOL READINESS: THE CONTRIBUTION OF FORMAL EARLY EDUCATION PROGRAMS

INTRODUCTION

Children who enter school ready to learn are those who enter with the knowledge, disposition, and skills needed to succeed in school. They are "healthy, immunized against disease, well-nourished, and well-rested. Their early experiences have given them a start in learning to cooperate, exercise self-control, articulate their thoughts and feelings, and follow rules. They are trusting and have a feeling of self-worth. They explore their environment actively and approach tasks with enthusiasm. They are motivated to learn" (U.S. Department of Education, 1991).

Preparing young children to enter school ready to succeed is a shared endeavor. Young children are cared for by a variety of caregivers, both in their own homes and in arrangements outside their homes. In 1990, nearly half (46 percent) of all children age 5 and under were regularly cared for in nonparental child care arrangements (Hofferth et al., 1991). Along with parents, all of these caregivers contribute to children's development and preparation for school.

School readiness is a growing national concern due to the increasing numbers of children being raised in families that are poor, unstable, limited in their ability to speak English, and/or lack social supports from extended family, neighbors, and community institutions. In addition, a substantial number of children have disabilities that interfere with their ability to attend school or do regular school work at grade level. For children from disadvantaged families and children with special needs, high-quality out-of-home care may play a critical role in preparing them to succeed in school.

The growing concern for school readiness is reflected in the nation's first education goal, which states that "by the year 2000, all children in America will start school ready to learn." The goal

further states that "all disadvantaged and disabled children will have access to high quality and developmentally appropriate preschool programs that help prepare children for school."[1]

Our success in meeting this national goal depends in large part on the availability, quality, and affordability of early education and care. Information on these key aspects of the supply of formal early education and care in 1990 is available from the Profile of Child Care Settings (PCS) Study, which was sponsored by the U.S. Department of Education to meet the need for comprehensive, up-to-date information on the supply of formal early education and care. These data provide useful information for policymakers and program operators who are implementing new policies (such as the Family Support Act of 1988 and the 1990 Child Care and Development Block Grant) and formulating strategies for achieving the national school readiness goal. Not only will this information be useful for program implementation, but it will also serve as a timely baseline for assessing the changes in the supply and characteristics of care that occur in response to the new policies.

Following a description of the PCS data, the remaining sections of this paper describe the availability, quality, and affordability of formal early education and care in the United States in 1990.

THE DATA

For the PCS Study, telephone surveys were conducted with a nationally representative sample of formal early education and care programs. The sample for the telephone surveys was selected in two stages. In the first stage, a random sample of 100 counties or groups of counties that are representative of counties in the United States was selected. Counties were stratified according to region, metropolitan status, and poverty level and were selected from each stratum with a probability proportional to the size of the population younger than age 5. In the second stage, a stratified

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[1]The second objective of the first national education goal states that "every parent in America will be a child's first teacher and devote time each day helping his or her preschool child learn; parents will have access to the training and support they need." The third objective states that "children will receive the nutrition and health care needed to arrive at school with healthy minds and bodies, and the number of low birthweight babies will be significantly reduced through enhanced prenatal health systems."

random sample of providers within the sample of counties was drawn. The providers were sorted into strata according to type of provider (Head Start programs, public-school-based programs, other center-based programs, and regulated family child care programs) to ensure that each category of provider was represented.

The basic sample frame for the PCS surveys consists of the child care centers, early education programs, and family child care providers that are licensed or registered by the state or county in which they are located. Because the coverage of licensing regulations varies among states, this basic sample frame was augmented with church-based programs, part-day preschool programs, and other programs that are exempt from licensing in some states.[2] The basic sample frame was also expanded to include public and private school-based programs, which rarely fall under the jurisdiction of child care licensing and are usually regulated by state education departments. Two types of programs--unlicensed programs that serve only school-age children and unlicensed programs that serve children exclusively on a drop-in basis--were specifically excluded from the sample frame because they do not provide *regular* care for *preschool* children and the lists were too difficult to obtain.

Interviews were completed with the directors of 2,089 center-based early education and care programs and 583 regulated family child care providers. Completion rates with centers were high, ranging from 86 percent among "other" center-based programs to 98 percent among Head Start programs.[3] Completion rates among regulated family child care providers were also high (87 percent).

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[2]Some part-day programs are exempt in 11 states in the sample. Despite our efforts to obtain lists of exempt part-day programs, it is likely that a small number of part-day programs were not included in the sample frame, since 7.6 percent of centers in states that exempt part-day programs compared with 10.6 percent of centers in other states reported operating for 4 hours per day or less, the most common threshold for exemption. Thus, the estimates of the total number of centers and the total number of children enrolled in centers may be slightly underestimated.

[3]The primary reasons given by nonrespondents for refusing to complete the interview were lack of interest in the survey and lack of time for the interview. Based on sample frame information, it does not appear that refusals were concentrated in any particular type of program.

THE AVAILABILITY OF FORMAL EARLY EDUCATION AND CARE

The availability of formal early education and care programs options to parents depends not only on the existence of such programs but also on their accessibility to parents. Access to the existing supply of care may be restricted by admission policies that deny care to some parents and children, by a lack of information about available care, or by fees that are unaffordable. In the following sections we examine the existing supply of formal early education and care programs, discuss admission policies and recruitment strategies that may restrict the options available to some families, and describe the resulting enrollment of children in formal programs. The affordability of formal early education and care programs is discussed in a later section.

The Availability and Adequacy of Options for Formal Care

Supply. The supply of formal early education and care programs, especially centers, has increased substantially since the late 1970s. At the beginning of 1990, approximately 80,000 center-based early education and care programs with the potential to serve approximately 5.3 million children were providing services in the United States. Of the 80,000 center-based early education and care programs, approximately 3,600 (4.4 percent) are centers primarily for children with diagnosed handicaps. Almost all programs for handicapped children serve preschool children age 3 and older. Most (89 percent) of the 76,500 center-based early education and care programs that are not primarily for handicapped children serve preschool children age 3 and older. In addition, approximately half of these centers serve infants and toddlers, and about half serve school-age children before or after regular school.

Approximately 118,000 regulated family child care providers with the capacity to care for 860,000 children were operating in the United States at the beginning of 1990.[4] Relative to the

[4]An estimated 3.3 million children were enrolled in nonregulated family day care homes at the beginning of 1990 (Willer et al., 1991). Depending on the average enrollment assumed, this implies that there were between 668,000 and 1.2 million nonregulated family day care providers at the beginning of 1990 (82 to 90 percent of all family day care providers).

population of preschool children, fewer regulated home-based programs are located in the Northeast and South, and more programs are located in the Midwest and West. In part, this disparity reflects regional differences in the minimum size of family child care homes required to be regulated.

A notable aspect of the supply of formal early education and care programs is its diversity. Not only is care available in both home-based and center-based settings, but centers are operated by diverse types of sponsors (Figure 1). One-third of all centers are operated for profit, primarily as independent programs rather than as members of local or national chains. Two-thirds of all centers are nonprofit organizations, the majority of which are sponsored by another organization. The types of organizations that sponsor centers range from schools to religious organizations, social service agencies, Head Start, and other community-based organizations.

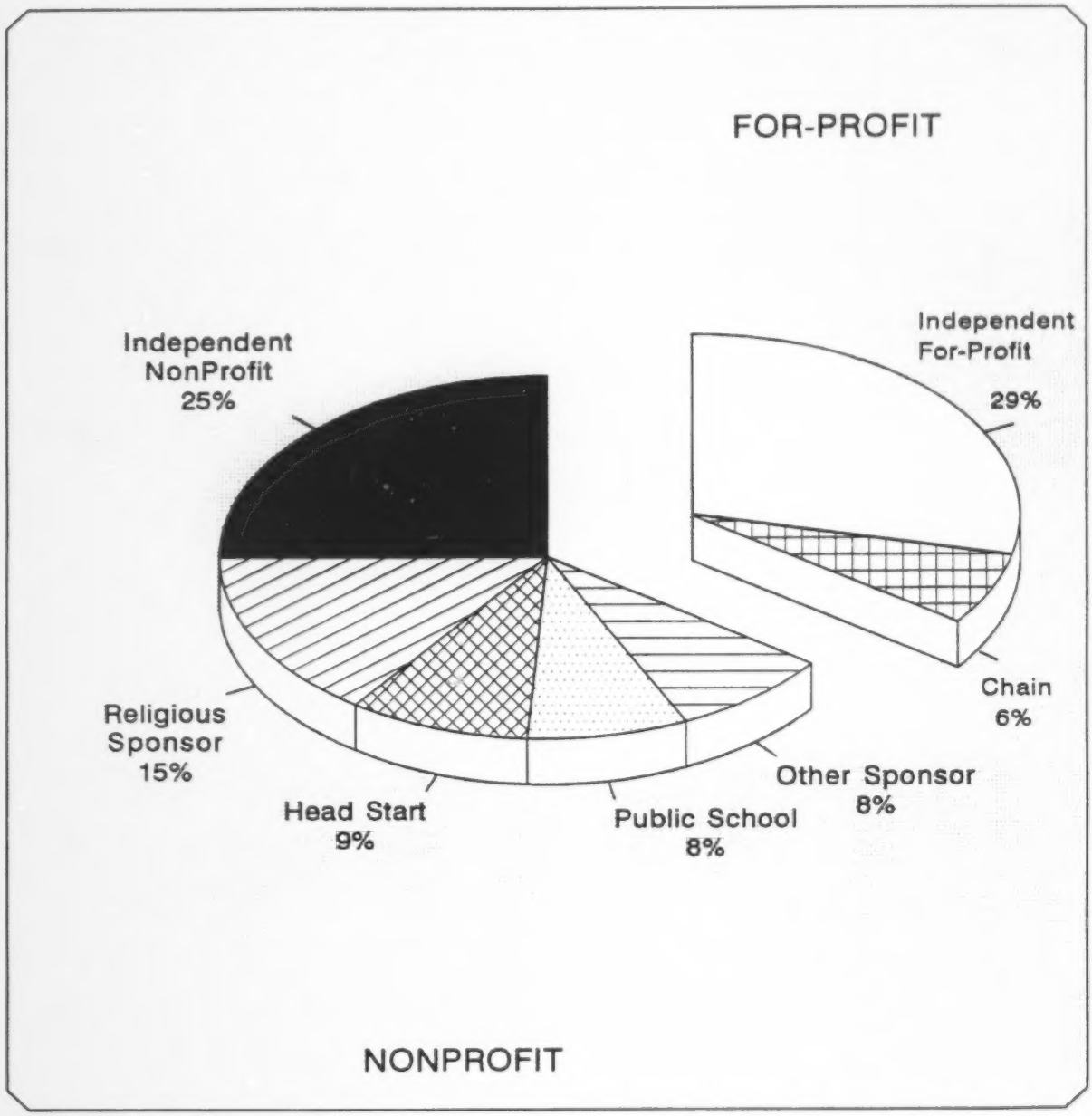
Program Utilization. Information from parents about their unmet demand for formal early education and care programs, which is not available from the PCS Study, would be required to conclusively determine the adequacy of the current supply of formal care. In the absence of such information, utilization rates, defined as total enrollment divided by total capacity, are broad indicators of the adequacy of the supply of formal early education and care services in the United States.[5]

The overall utilization of the current supply is high, particularly in centers. The overall utilization rate in centers is higher than the utilization rate in home-based settings and is sufficiently

[5]Low utilization rates would suggest either that the available supply is more than adequate to meet parents' needs or that some parents who demand formal care are unable to access the current supply due to information, cost, or location barriers. High utilization rates, on the other hand, would indicate that the current supply of care either just meets parents' needs or is insufficient to meet the needs of all parents who want formal education and care for their preschool children.

FIGURE 1

CENTER AUSPICES



SOURCE: Kisker et al. (1991)

high to suggest that the supply of care in center-based early childhood programs is close to being utilized fully. Overall, 88 percent of the available spaces in centers were filled at the beginning of 1990.[6]

Utilization rates are not uniform across all programs, and many programs are operating at capacity. Although utilization rates in individual centers[7] average 88 percent, average utilization rates in the majority of centers are higher than 93 percent, and most vacancies that exist are concentrated in fewer than half of all programs.

Overall, the utilization rate[8] of spaces in regulated family child care programs is not quite as high as that for centers, but many programs have no vacancies. Approximately 82 percent of the spaces available in regulated family child care settings were filled at the beginning of 1990. However, as was the case in centers, most of the vacancies that exist in regulated family child care programs are concentrated in fewer than half of all programs.

Parental Satisfaction With Care. Another indicator of the adequacy of available early education and care options is the extent to which parents are able to arrange for their preferred type of care. Although in 1990 most parents using care reported that they were satisfied or very satisfied with their current child care arrangements, a significant proportion (26 percent) reported that they would prefer some other type of care, most often center-based care (Hofferth et al., 1991). Low-income parents using child care are no more likely than higher-income parents using care to report

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[6]Overall utilization rates mask local market differences in utilization; to the extent that local markets with an excess supply of program spaces exist, then the overall utilization rate will be less than 100 percent. It should also be kept in mind that, even when supply is insufficient, one would not expect 100 percent utilization due to vacancies that temporarily exist because of turnover in enrollment.

[7]For each group in center-based programs, utilization rates were calculated as enrollment divided by the sum of enrollment and vacancies. An average utilization rate among groups was then computed for each program.

[8]The utilization rate in home-based settings is defined as enrollment divided by capacity, where capacity is the number of children for whom the provider is licensed to provide care. To the extent that providers are not willing to care for the total number of children for whom they are licensed, the average utilization rate underestimates the true utilization rate.

that they would prefer some other type of arrangement. However, among parents preferring another type of arrangement, low-income parents are much more likely than higher-income parents to prefer center-based arrangements (66 percent, compared with 43 percent of middle-income families and 29 percent of higher-income families), suggesting that options for center-based care available to low-income parents may be less adequate than those available to higher-income families (Hofferth et al., 1991).

Admission Policies and Recruitment Strategies

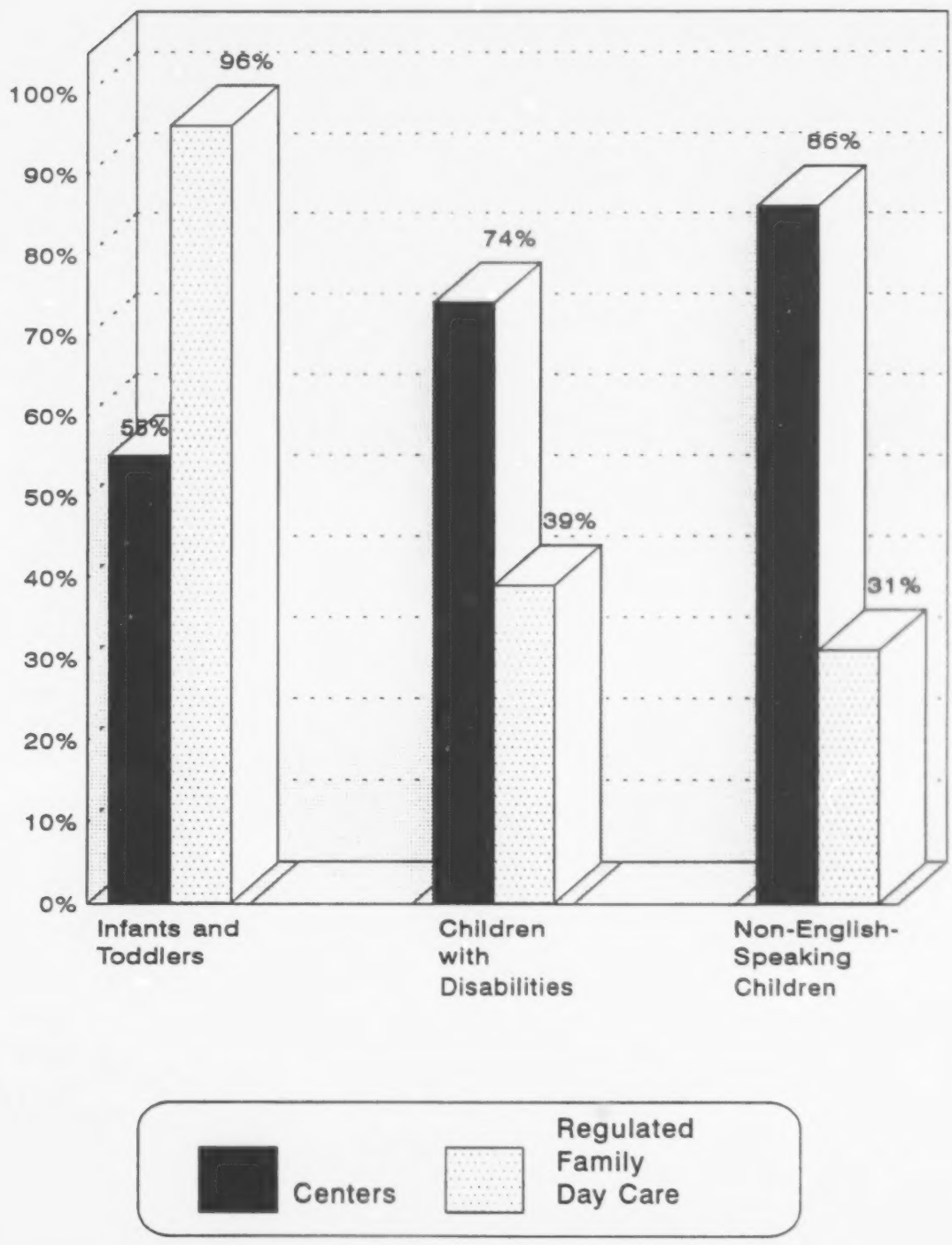
A critical aspect of the supply of early education and care programs is the accessibility of the programs to families and children needing early education and care. Admission to some programs is restricted to certain groups of families or children, so the supply of care available to the excluded groups of families and children is more limited than would be indicated by an examination of the total supply of care. In particular, the options available for children who are at risk of later school failure--namely, children who do not speak English, children with diagnosed handicaps, and children from poor families whose fees are paid by a public agency--appear to be more limited than options available for other children.

Centers are much more likely than home-based programs to accept non-English-speaking children or children with disabilities (Figure 2). A large majority of centers accept non-English-speaking children (86 percent), but less than one-third of regulated family child care providers accept such children. Many (44 percent) of the centers that accept non-English-speaking children have bilingual staff to help children who lack English language skills.

Approximately three-fourths of centers, compared with only 39 percent of regulated family child care providers, reported that they accept or would accept children with diagnosed handicaps. Approximately half of centers reported that they accept children with disabilities, 18 percent reported that they make decisions on a case-by-case basis, and 7 percent reported that they do not currently care for disabled children but that they would be willing to accept them.

FIGURE 2

ADMISSION POLICIES



SOURCE: Kisker et al. (1991)

The vast majority of regulated home-based programs would accept children whose fees are paid by a public agency[9] (86 percent), although only a small percentage are currently caring for any subsidized children (18 percent). Directors of centers were not asked directly about whether they accept children whose fees are paid by a public agency. However, approximately one-third of non-public-school-based programs currently care for some children whose fees are paid by a public agency. If all public-school-based programs are assumed to serve some subsidized children (not an unreasonable assumption given the fact that most public-school-based programs target and serve low-income children and the small percentage of their budgets that come from parent fees), then an estimated 40 percent of all centers currently serve subsidized children. Some additional programs may accept subsidized children but are not currently caring for any subsidized children.

Among programs willing to serve children at risk of school failure, only small proportions target their recruiting efforts to these children. Although more than 40 percent of centers reported making special efforts to recruit and enroll specific types of children, only 29 percent target low-income children, only 15 percent target handicapped or abused children, and only 4 percent target children from specific minority ethnic groups.

Although the majority of centers do not make special efforts to attract and enroll children at risk of school failure, nearly all formal programs actively take steps to fill vacancies (97 percent of centers and 94 percent of family child care programs). The most prevalent method for filling vacancies is to advertise informally by word of mouth and get referrals from friends and relatives. Approximately 60 percent of both centers and regulated family child care providers reported finding children to care for through word-of-mouth referrals. The majority of centers also advertise formally in newspapers, yellow pages, or other media, while an estimated 31 percent of regulated family child care providers advertise formally.

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[9]In 1990 provider subsidies were available through Head Start, the Social Services Block Grant program, the Child and Adult Care Food Program, special education and rehabilitative programs, work-welfare programs, and school-age programs (Hayes et al., 1990).

Enrollment

Not only has the number of programs increased dramatically since the late 1970s, but the average enrollment in formal early education and care programs has also increased significantly since the late 1970s. The average enrollment in centers is now 62 children, while the average enrollment in regulated family child care programs is 6 children. Approximately one-third of children enrolled in centers and one-half of children enrolled in family child care programs are enrolled full-time (35 or more hours per week).

The age distribution of enrollment differs between centers and regulated family child care settings. Enrollment in centers is concentrated more among the 3- and 4-year-old age groups (53 percent versus 30 percent in center-based and home-based settings, respectively) and concentrated less in the infant and toddler age groups (16 versus 45 percent). Children 5 years and older constitute similar proportions of total enrollment (30 and 24 percent).

Enrollment of Children From Low-Income and Minority Families. Children from low-income[10] and minority families, who are at relatively greater risk of later school failure, are less likely than other children to be enrolled in formal early education and care programs. According to the National Child Care Survey 1990, only 26 percent of low-income 3-year-olds were enrolled in centers, compared with 41 percent of *all* 3-year-olds. Similarly, 54 percent of low-income 4-year-olds and 83 percent of low-income 5-year-olds were enrolled in centers or school, compared with 61 and 90 percent of *all* 4- and 5-year-olds (Brayfield et al., 1991; Hofferth et al., 1991).

The lower likelihood that low-income children are enrolled in centers is concentrated in nonworking poor families. Among young children of employed mothers, low-income children are not significantly less likely than higher-income children to be enrolled in centers or family child care programs. However, among children of nonemployed mothers, low-income children are less likely than higher-income children to be enrolled in centers, although children of families at the lowest

[10]Low-income families are those reporting total annual household incomes of less than $15,000.

income level are slightly more likely than children of families with middle-level incomes to be enrolled in centers (Hofferth et al., 1991).

Children from low-income families who are enrolled in centers are most likely to attend nonprofit centers not sponsored by religious organizations (Figure 3). More than 30 percent of the children who attend these nonprofit centers are poor, compared with fewer than 10 percent of children in other types of programs. Head Start programs care for the highest proportions of children whose parents receive public assistance. On average, program directors estimated that approximately 68 percent of children who attend Head Start programs come from families on public assistance.[11]

Among children enrolled in centers, black children are overrepresented and Hispanic children are underrepresented relative to the population of children younger than age 5. However, the overall proportion of children in centers who are minorities reflects the ethnic composition of the population of children. In contrast, minority children are underrepresented in regulated home-based settings. Overall, approximately 30 percent of children in center-based settings are members of minority ethnic groups, compared with only 19 percent of children in home-based settings.

Compared with other centers, substantially higher proportions of children who are enrolled in Head Start and public-school-based programs are black or Hispanic. Approximately one-third of children in Head Start and public-school-based programs are black (37 and 34 percent, respectively), while 16 and 12 percent are Hispanic, respectively.

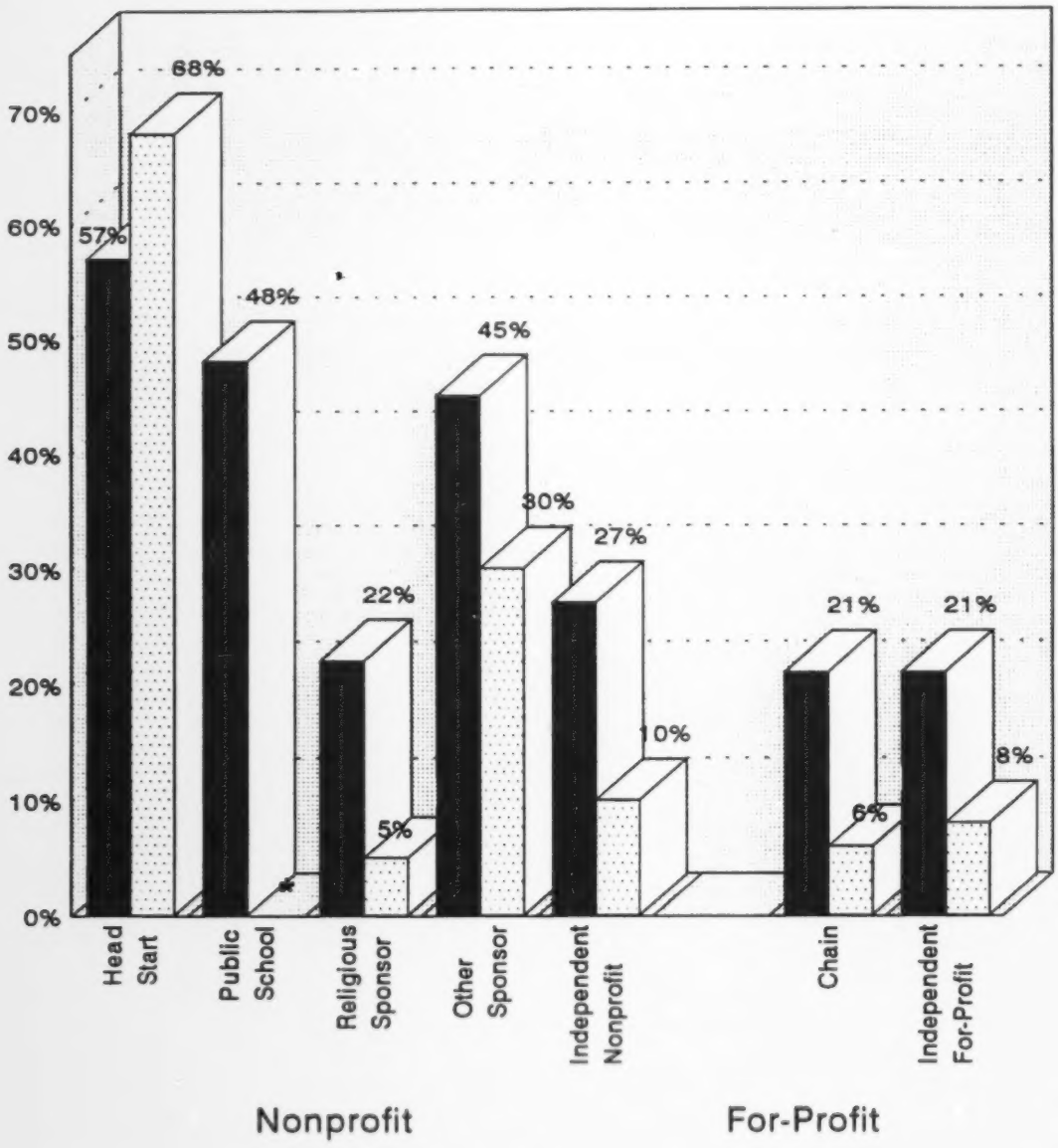
THE QUALITY OF FORMAL EARLY EDUCATION AND CARE OPTIONS

Because formal early education and care programs are important partners in preparing young children to learn and succeed in school, the quality of these programs is critically important. Psychological theory predicts that the early experiences of children will have a significant influence

[11]Head Start eligibility requirements specify that at least 90 percent of children enrolled be from low-income families. Indications are that these guidelines are being met, even though only about half of all Head Start families are public assistance recipients (Zill and Wolpow, 1990).

FIGURE 3

ENROLLMENT OF DISADVANTAGED CHILDREN



SOURCE: Kisker et al. (1991)

* Not Available

on their cognitive, social, and emotional development, and thus influence their subsequent life experiences and outcomes. Thus, experiences in formal early education and care settings are likely to affect the academic progress of children later in life, and may be particularly important for disadvantaged children, who are at especially high risk of poor academic achievement.

Although it is widely agreed that the quality of care for young children is critically important, defining and measuring quality presents a substantial challenge. Ideally, program quality would be assessed by directly examining the developmental progress of the children in care. However, in a national study like the PCS Study it is not practical to assess quality by conducting child assessments, since child assessments require a substantial amount of observation time with individual children. Therefore, we drew on the results of the developmental research on the quality of care to identify several key characteristics of early childhood programs that are related to the development of children.[12] The PCS Study provides information on these indicators of quality of care--specifically, group sizes, child-staff ratios, caregiver qualifications, and teacher turnover.

Benchmarks for the quality indicators reported by center directors and family child care providers are necessary to assess the quality of care provided in centers and regulated family child care programs. Four sets of benchmarks representing different levels of quality are available for comparison, including state child care regulations, the National Association for the Education of Young Children (NAEYC) accreditation criteria, the Health, Education, and Welfare Day Care Requirements (HEWDCR), and the synthesis of professional recommendations reported by the National Academy of Sciences Panel on Child Care Policy. In this paper we focus on two sets of benchmarks--state regulations and the NAEYC accreditation criteria.

State child care regulations represent the political consensus regarding the levels of the quality indicators that are acceptable for protecting the health, safety, and basic developmental needs of children in early education and care settings. The political consensus balances the need to protect

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[12]The research on quality of care has several limitations. See Kisker et al. (1991) for a discussion of these limitations.

children's well-being with the need to keep the costs of providing care low and to promote the availability of affordable care. Although many states' regulations define care that meets professional recommendations, child care regulations vary considerably across states. Such variability extends from very stringent regulations to a range of quality that may pose a risk to children (Phillips et al., 1990).

The NAEYC accreditation criteria, developed in 1984 for center-based programs, represent one consensus of early childhood professionals about the criteria that define a good-quality center for children. The NAEYC accreditation criteria are more stringent than some states' child care regulations.

Group Sizes

Early research consistently showed that smaller group sizes in child care and early education settings are beneficial for a child's development. Smaller groups were associated with more positive interactions between caregivers and children and with more favorable developmental outcomes (Travers et al., 1980; Howes, 1983; Howes and Rubinstein, 1985; and Clarke-Stewart, 1987). Although more recent evidence has called into question the link between group size and positive developmental outcomes (Whitebook et al., 1989; and Kagan and Newton, 1989), the weight of the evidence suggests that group size is an important indicator of quality.

Centers.[13] Average group sizes in centers have increased since the late 1970s. Today, the average group sizes maintained by centers range from 7 children in groups of infants to 17 children in groups of preschool children and average 11 children in groups of toddlers. These group sizes are larger than those maintained by centers in the late 1970s by 1 to 2 children in all age categories.

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[13] Most centers are organized into groups of children who are cared for together by an assigned teacher or group of teachers. In the PCS surveys, center directors were asked about the groups of children who are cared for together for the majority of the time they attend the program. If the survey questions ascertained that children change groups frequently, directors were asked to describe the groups of children who are cared for together during a typical morning or afternoon activity period. For each center, an overall average group size was calculated to summarize the group sizes maintained by the center. In addition, average group sizes maintained for children in specific age groups were calculated.

While on average, centers maintain average group sizes that are smaller than the maximum group sizes required by state regulations and recommended by early childhood professionals, significant proportions of centers reported group sizes that exceed these benchmarks (Figure 4). In particular, depending on the age group examined, between 15 and 50 percent of centers reported group sizes that were larger than the maximum group sizes recommended by NAEYC in their accreditation criteria. Centers are most likely to exceed the recommended maximum group sizes for infants and toddlers.

Average group sizes do not differ significantly among Head Start, public-school-based, religious-sponsored, and other types of centers. Moreover, average group sizes do not differ significantly among all centers according to the proportion of children enrolled who are poor or the extent to which the center cares for children whose fees are paid by a public agency. Thus, according to this indicator of quality, children who are at higher risk of later school failure appear to be receiving care that is neither of higher nor of lower quality than the care received by other children.

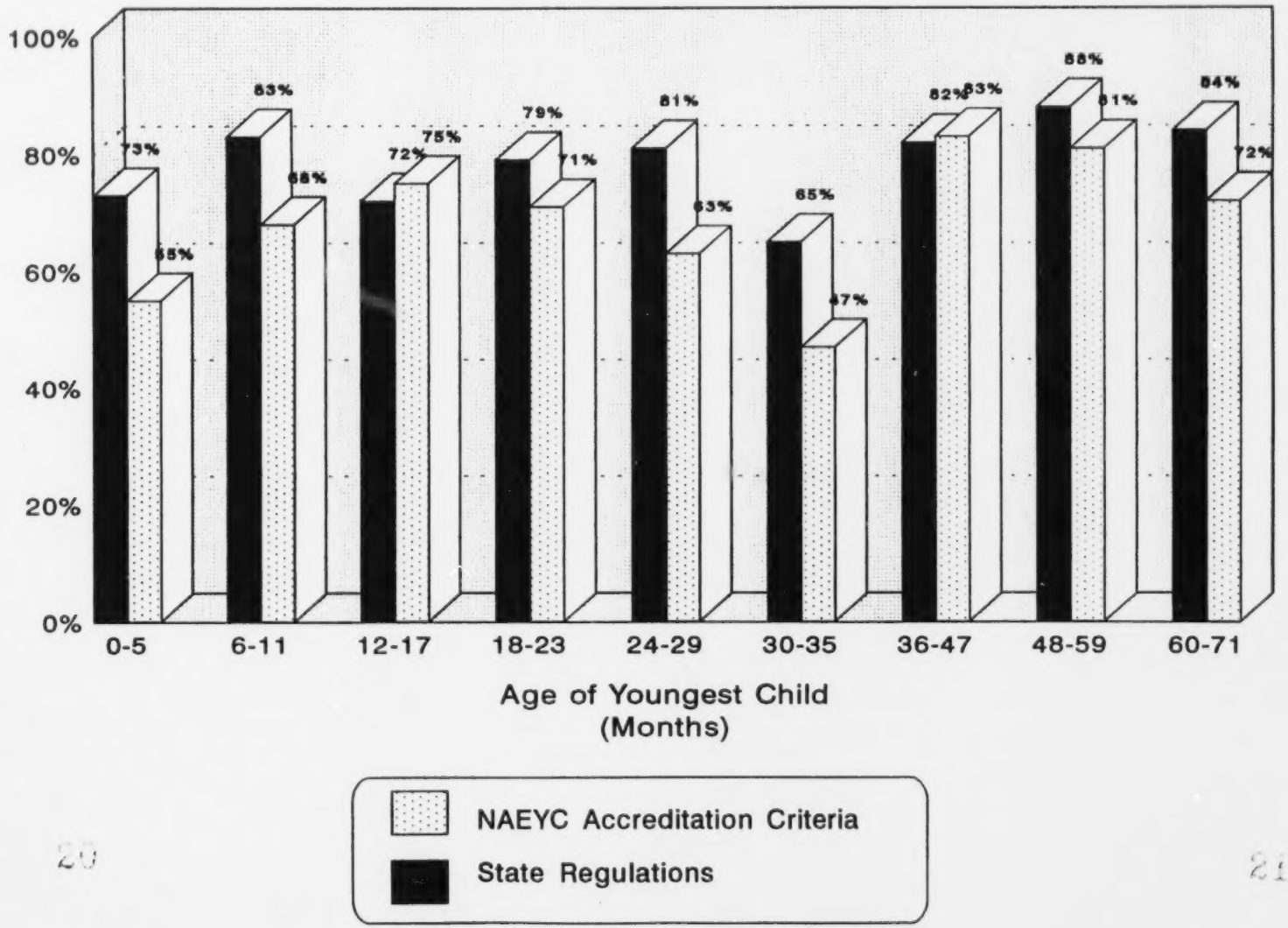
Regulated Family Child Care.[14] Average group sizes in regulated family child care settings have also increased since the late 1970s. The average maximum group size in regulated family child care settings is now 7 children, including 1 child of the provider and 6 children from other families, compared with 5 children in the late 1970s. Groups in regulated family child care settings that include infants or toddlers are smaller by 1 child on average than groups that include only older children.

Because not all children enrolled in family child care settings are in care full-time, the average

[14]In home-based settings, all children are usually cared for together by the provider. To the extent that all children are also in care at the same time, group size is equivalent to program size. However, in many cases, some children are in care only part-time, and program size represents the *maximum* group size maintained by the home-based provider. This measure of group size is the one most commonly used in state regulations.

FIGURE 4

PERCENTAGE OF CENTERS MEETING GROUP SIZE RECOMMENDATIONS



SOURCE: Kisker et al. (1991)

maximum group size represents the least favorable group size experienced by children in these settings. If the number of hours that children are in care are taken into account in calculating group size, the average group size experienced by children over the course of a day is 4 children.

Average maximum group sizes in regulated family child care settings are smaller than the average maximum group sizes specified in state regulations. Average group sizes range from 5 to 6 children per group in settings that have no additional child care helpers and average 8 children per group in settings with at least one additional child care helper. A relatively high percentage of regulated family child care providers reported group sizes that meet their state group size criteria (61 to 83 percent) (Figure 5). Among those that do not meet their state regulations, however, average group sizes are 25 to 50 percent above the maximum levels stipulated by the state requirements.

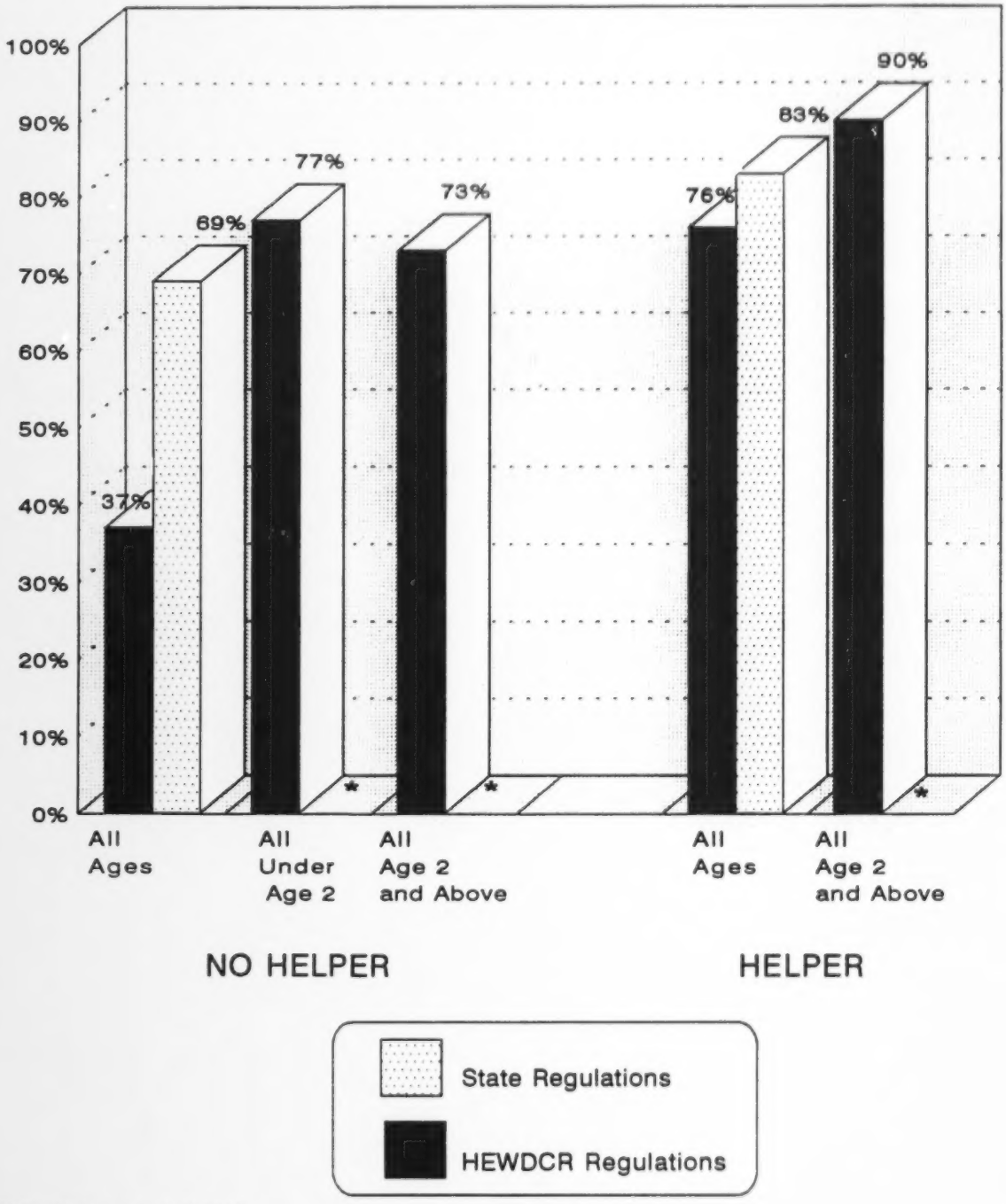
Child-Staff Ratios

Although the research on the relationship between child-staff ratios and developmental outcomes is inconsistent, the weight of the evidence suggests that low child-staff ratios are beneficial to children in early education and care programs. Lower child-staff ratios are believed to enhance opportunities for positive adult-child interactions (Howes and Rubenstein, 1985) and, thus, enhance the social competence of children (Phillips et al., 1987; and Howes, 1987).

Child-staff ratios appear to be especially important for infants and toddlers. Lower child-staff ratios in groups of younger children have been shown to facilitate positive social interactions, foster a more positive emotional environment, and promote secure attachments to caregivers (Howes, 1983; Howes and Rubenstein, 1985; and Howes et al., 1988).

FIGURE 5

PERCENTAGE OF REGULATED FAMILY CHILD CARE PROGRAMS MEETING GROUP SIZE RECOMMENDATIONS



SOURCE: Kisker et al (1991).

* Not Available

Centers.[15] Like average group sizes, average child-staff ratios maintained by centers have increased since the late 1970s. The average center now maintains a child-staff ratio of 9 children per staff member, compared with 7 children per staff member in 1976-77. The average child-staff ratios for groups of different ages range from 4 children per staff member in groups of infants to 10 children per staff member in groups of preschool children and average 7 children per staff member in groups of toddlers.

Child-staff ratios are consistently higher in for-profit programs that are part of national or local chains than in other types of programs. The overall average child-staff ratio maintained by for-profit chain programs is 10 children per staff member, compared with 8 to 9 children per staff member in other types of programs. The differences in ratios are greatest in groups in which the youngest child is age 3 or older. For example, in groups in which the youngest child is 3 years old, the average ratio is 11 children per staff member in for-profit chain programs, compared with 8 to 9 children per staff member in other types of programs.

Comparisons of average child-staff ratios in centers to state regulations and the NAEYC accreditation criteria suggest that, according to this indicator of quality, the average quality of care is adequate but does not meet professional recommendations for good-quality care. Average child-staff ratios in centers are less than or equal to average state regulations[16] for all age groups. However, average child-staff ratios in centers slightly exceed NAEYC criteria for most age categories.

The percentage of centers that meet regulations and professional child-staff ratio recommendations is generally lowest for groups of younger children (Figure 6). The percentages of

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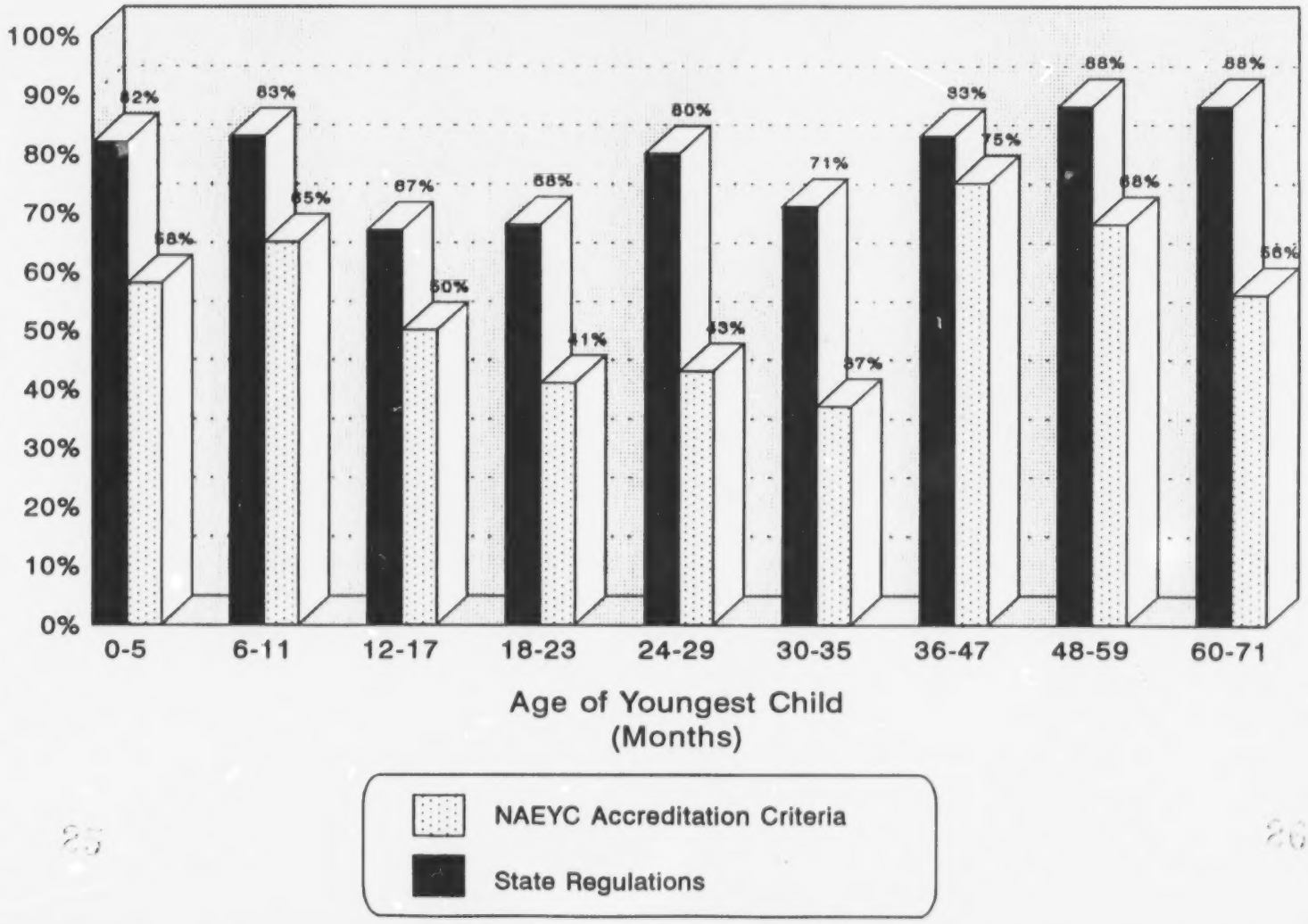
[15]When center-directors were asked to describe the groups into which their program is organized, they were also asked to describe the numbers and types of staff who are with each group during a typical activity period. For each group child-staff ratios were constructed as the group size divided by the number of teachers, assistant teachers, and aides who are with the group during a typical activity period. Average child-staff ratios for each center were computed across all groups and for specific age groups.

[16]Average state regulations for child-staff ratios range from 5 children per staff member for infants to 21 children per staff member for school-age children.

FIGURE 6

PERCENTAGE OF CENTERS MEETING CHILD-STAFF RATIO RECOMMENDATIONS



SOURCE: Kisker et al. (1991)

centers that meet regulations and professional recommendations also vary across types of centers. Head Start and public-school-based programs are more likely than other centers to meet NAEYC criteria for 3- and 4-year-old children. In addition, for most age groups, nonprofit centers and for-profit centers that are independently owned and operated are more likely than for-profit centers that are part of local or national chains to meet child-staff ratio requirements.

The differences in average child-staff ratios between programs that meet state child-staff ratio requirements and those that do not are quite large. Programs that do not meet state regulations are likely to have approximately twice as many children under the care and supervision of a single staff member than programs that do meet state ratio criteria.

Regulated Family Child Care Settings.[17] The average maximum child-staff ratio maintained in regulated home-based settings is 6 children per staff member. Maximum child-staff ratios range from as few as 1 child per staff member to as many as 17 children per staff member. If the number of hours that children are in care are taken into account in calculating the average child-staff ratio, the average ratio experienced by children is 4 children per staff member.

Regulated family child-care providers who are members of minority groups maintain average child-staff ratios that are smaller than those maintained by nonminority providers. Hispanic and black, non-Hispanic providers maintain ratios of 5 children per staff member, compared with an average ratio of 6 children per staff member maintained by white non-Hispanic providers.

Caregiver Qualifications

It is generally agreed that years of schooling and specialized training of caregivers bear a positive relationship to children's development (Phillips and Howes, 1987). Studies have found that

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[17]Child-staff ratios in regulated family child care settings were calculated by dividing group size (including the provider's own children) by the number of staff, where the number of staff includes the provider plus any partners or helpers over age 13 that help the provider care for children. Because these helpers provide care for relatively few hours per week (10 hours per week or less in more than half of regulated home-based settings in which there are helpers), the number of helpers was specified as the number of full-time-equivalent helpers.

caregivers who are trained in early education or child development exhibit more helpful behavior and spend more time with children (Divine-Hawkins, 1981), provide greater social and intellectual stimulation (Travers et al., 1980), and foster better intellectual and language development outcomes among children (Clarke-Stewart, 1987). Similar effects have been found for providers with more years of schooling (Phillips and Howes, 1987; and Whitebook et al., 1989). However, little is known about the relative importance of different types of training or educational curricula.

Centers. The vast majority of preschool teachers[18] in center-based early education and care programs were reported to have had some special training in child care or early education (93 percent). In general, the most commonly reported types of child-related training among teachers are child care courses or workshops (56 percent), child development or psychology courses (36 percent), teacher training (36 percent), and other education training (41 percent).

Virtually all teachers in Head Start and public-school-based programs have received special child-related training, compared with 93 percent of teachers in other types of centers. Head Start teachers are significantly more likely than teachers in other centers to have received Child Development Associate (CDA) training, child development or psychology courses, training provided by a government or resource and referral agency, or social services training. Teachers in public-school-based programs are substantially more likely than teachers in other settings to have received teacher training or other education training. Teachers in religious-sponsored and Head Start programs are more likely than teachers in other settings to have attended child-care courses or workshops.

Teachers in most centers were reported to have received 10 hours or more of in-service training during the year prior to the survey (90 percent). The most common sources of training were local community colleges and training sponsored by the program.

[18]Does not include assistant teachers or aides.

Center-based teachers are relatively well-educated (Figure 7). In the average center-based early education and care program, nearly half of all teachers have completed college (47 percent), and an additional 13 percent have received a two-year college degree. Most of the remaining teachers have a CDA credential or some college experience but no degree (12 and 15 percent, respectively). Only 14 percent of teachers do not have any education beyond high school.

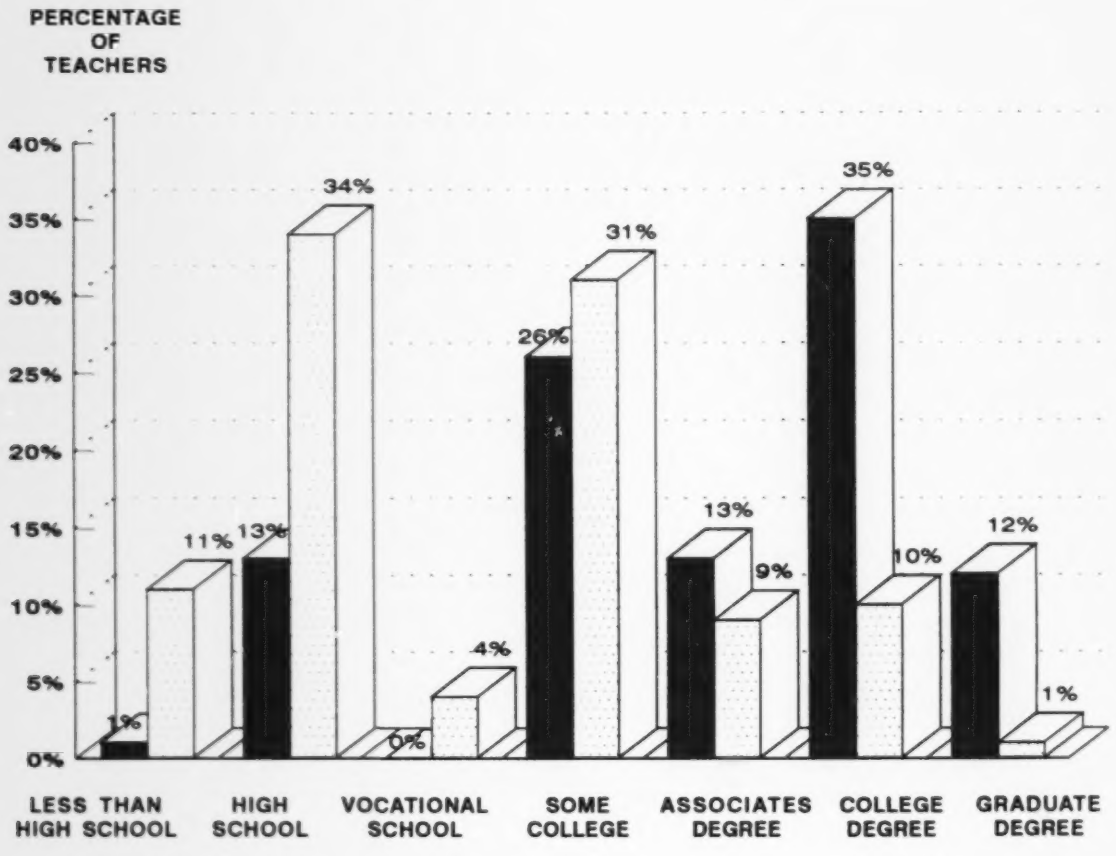
Teachers in public-school-based programs have substantially more formal education than teachers in other types of programs. Approximately 88 percent of teachers in the average public-school-based program have completed college, compared with 42 to 50 percent of teachers in other types of programs. Virtually all teachers in public-school-based programs have some formal education beyond high school, while approximately 15 percent of teachers in other types of programs have no formal education beyond high school.

Teachers in for-profit centers have less formal education on average than do teachers in nonprofit centers. Approximately one-third of the teachers in the average for-profit center have completed college, compared with half of the teachers in the average nonprofit center. Similarly, approximately 20 percent of the teachers in the average for-profit program have no formal education beyond high school, compared with 14 percent of the teachers in religious-sponsored nonprofit centers and 7 percent of the teachers in other nonprofit centers.

Regulated Home-Based Settings. Regulated family child care providers are less likely than teachers in centers to have had some child-related training. About two-thirds of regulated family child care providers (64 percent) have received some training specific to child care or early education, primarily from child care courses or workshops (43 percent) and courses in child development or psychology (28 percent). The least common forms of training are CDA training (6 percent), resource

FIGURE 7

EDUCATIONAL QUALIFICATIONS OF TEACHERS IN EARLY EDUCATION AND CARE PROGRAMS



SOURCE: Kisker et al (1991).

and referral and government-sponsored training (5 percent), and training in social services (2 percent).

Regulated family child care providers have also received less formal education than have teachers in centers. Approximately 11 percent of regulated home-based providers have completed college, 44 percent have had some formal schooling beyond high school, 34 percent have a high school diploma but no additional education, and 11 percent have not graduated from high school.

Regulated family child care providers who enroll low-income children are less highly educated but more likely to have received specialized child-related training than those who do not enroll low-income children. Regulated home-based providers who care for children whose parents are on welfare are more likely than those who do not care for children of welfare recipients to have only a high school diploma or less (54 percent versus 42 percent) but are more likely to have received training in early education or child care (73 versus 61 percent).

The Stability of Caregivers.

Child development research indicates the importance for children of enduring relationships. Children who have experienced multiple changes in early education and care arrangements have been found to make insecure attachments to their mothers and, in the longer-run, to adjust poorly in school (Hayes et al., 1990; and Howes and Stewart, 1987; Howes, 1988). Moreover, several studies indicate that the consistent assignment of groups of children to particular caregivers in center-based early education and care settings leads to more secure attachments (Hayes et al., 1990).

The extent to which children experience changing early education and child care arrangements is very modest. The National Child Care Survey 1990 found that in the year prior to the survey, only 11 percent of all children under school age changed nonmaternal care arrangments. Moreover, children from low-income families did not experience greater instability in their arrangements than did other children (Hofferth et al., 1991).

A more important source of instability in early education and care arrangements may be changes in caregivers within those arrangements. Staff turnover in centers is high. During the year prior to the survey, the average center experienced the loss of 25 percent of its teachers.[19] However, the turnover of teachers was concentrated in approximately half of all centers. The average turnover rate in centers that experienced some turnover was 50 percent.[20]

Teacher turnover rates are higher in for-profit centers, particularly those that are part of chains, than in nonprofit centers (Figure 8). The average rate of turnover in for-profit centers that are part of local or national chains is 39 percent, compared with 27 percent in independent for-profit centers, 23 percent in religious-sponsored nonprofit centers, and 25 percent in other nonprofit centers. Approximately three-quarters of for-profit chain centers experienced some turnover in teachers, while only about half of other types of centers experienced some turnover. The rates of teacher turnover in centers that have experienced some turnover range from 41 percent in religious-sponsored nonprofit centers to 64 percent in Head Start centers.

Head Start and public-school-based programs, which serve large proportions of low-income children, were less likely than other types of programs to experience teacher turnover during the year prior to the survey. Only one-fourth of public-school-based programs and one-third of Head Start programs experienced turnover, compared with over half of the other types of programs. However, among centers that experienced some turnover, average turnover rates were higher in Head Start and public-school-based programs than in other types of programs (64 and 60 percent, compared with 41

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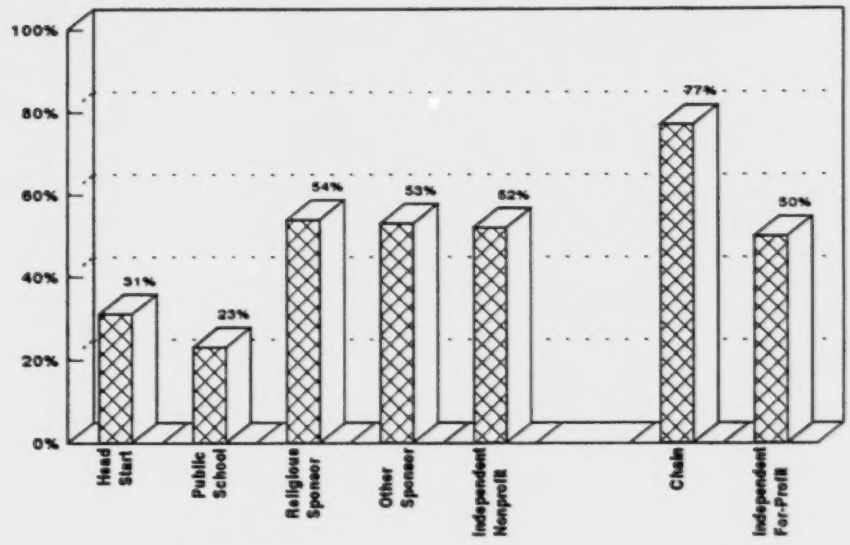
[19]Annual teacher turnover is defined as the number of teachers who left the center during the past 12 months divided by the total number of teachers employed by the center. This measure does not include assistant teachers and aides.

[20]These turnover rates are lower than those reported by Whitebook et al. (1989). Their sample of centers, which is not nationally representative, consists of centers located in five metropolitan areas. In addition, their measure of turnover includes all teaching staff, not just teachers. With this sample of centers, Whitebook et al. found the average annual rate of turnover was 41 percent, and only 7 percent of centers experienced no staff turnover. Among teachers and teacher-directors, the annual turnover rate was 35 percent.

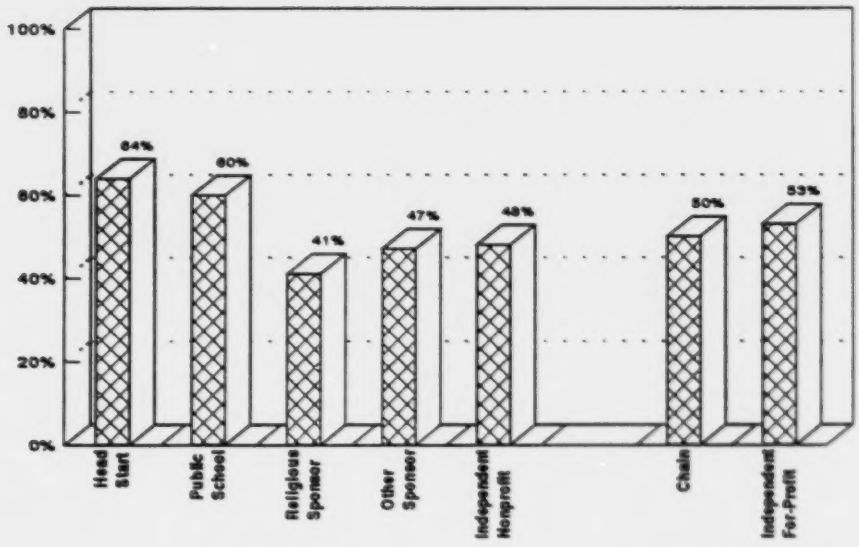
FIGURE 8

TEACHER TURNOVER IN CENTERS

Percentage Experiencing Turnover



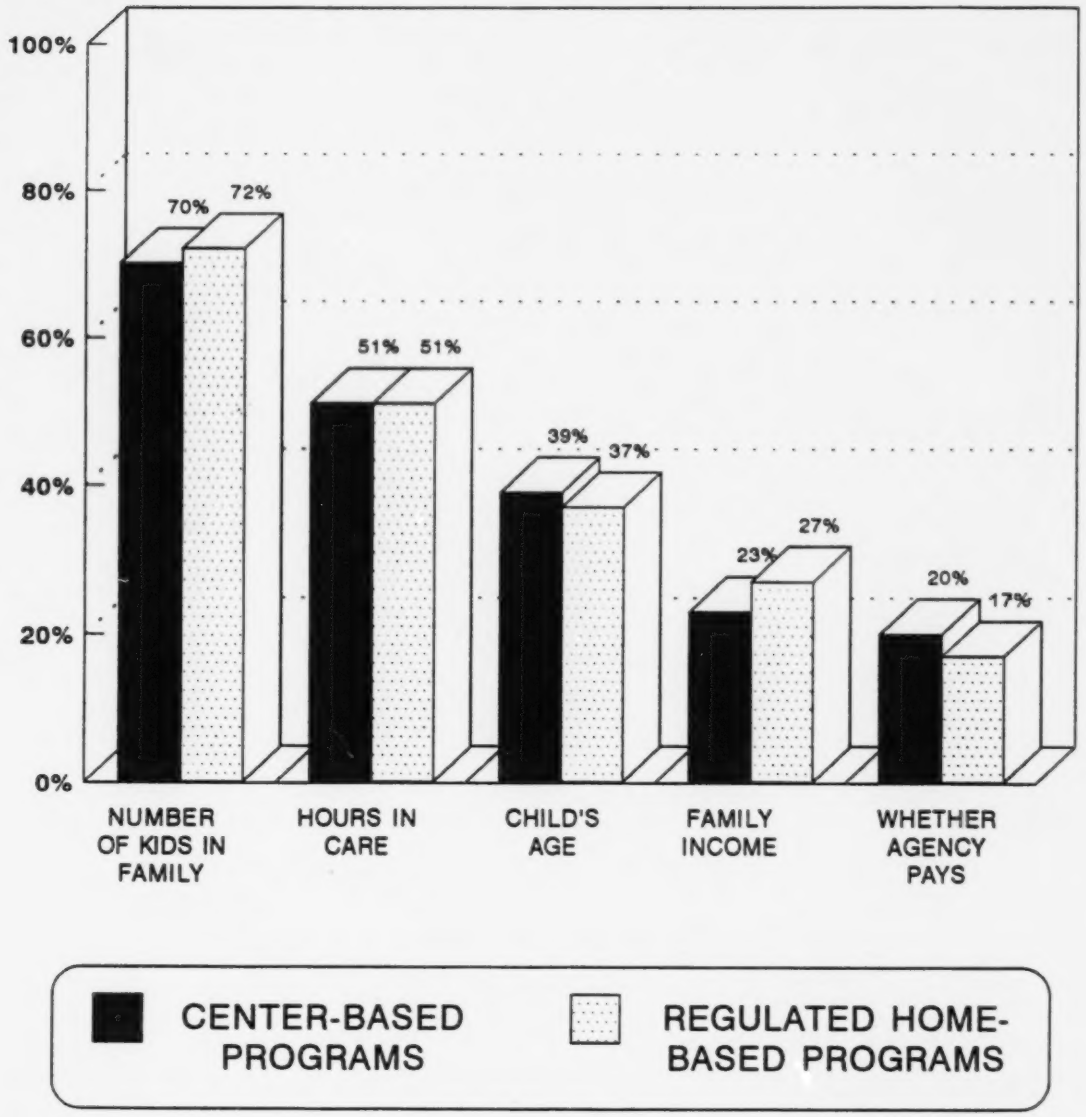
Average Turnover Rate in Centers Experiencing Turnover



SOURCE: Kisker et al. (1991)

FIGURE 9

FEE ADJUSTMENT POLICIES OF EARLY EDUCATION AND CARE PROGRAMS



SOURCE: Kisker et al (1991).

and 50 percent of religious-sponsored and other programs, respectively).

Sponsorship

While centers provide caregivers with opportunities for collegial interaction and relief from their demanding interactions with children, providers in home-based settings work in a more isolated environment. Several studies have found that for family child care providers, supportive contacts from a network of family providers or the supervision of a sponsor may have a positive influence on caregiver-child interactions (Rosenthal, 1988; Divine-Hawkins, 1980).

Approximately one-quarter of regulated home-based providers are sponsored by an organization that coordinates family child care in their community. However, approximately half of the regulated home-based providers reported meeting regularly with other family child care providers.

The Profile of Quality in Early Education and Care Settings

Although the various dimensions of quality have been examined separately, it is important to recognize that the overall quality of a setting is defined by the configuration of all these dimensions. The highest-quality settings are those that combine small group sizes, low child-staff ratios, well-qualified and stable caregivers, and program activities that allow for structured but child-initiated learning and do not include large amounts of unstructured free play time. Conversely, poor-quality settings are those in which large group sizes, high child-staff ratios, and untrained caregivers combine to form an environment that is not conducive to child development (Hayes et al., 1990). Little is known about the overall quality of care in settings where individual indicators of quality are inconsistent, such as in family child care settings in which the provider is poorly educated but the group size is small.

Because the PCS data show that quality along one dimension is not highly correlated with quality along another dimension, a conclusive assessment of the overall quality of formal early education and care settings cannot be derived from the individual quality indicators. The highest

correlations among the quality indicators are those between average group sizes and average child-staff ratios. Average group sizes are moderately positively correlated with average child-staff ratios (correlation coefficients of .64 or less). By definition smaller groups tend to have smaller child-staff ratios. However, average child-staff ratios consistently increase as average group sizes increase beyond the smallest groups. The correlations between ratios and group sizes and the other indicators of quality are quite small, in most cases ranging from 0 to .10 in absolute magnitude.

THE AFFORDABILITY OF FORMAL EARLY EDUCATION AND CARE

Along with the availability and quality of early education and care programs, their affordability to parents critically affects the role they can play in preparing young children for school. Fees are an important determinant of parents' child care choices. Among parents who considered alternative arrangements for their child, nearly 10 percent cited cost as the main reason for their final choice of arrangement. Low-income parents were 50 percent more likely to cite cost as the main reason for their final child care choice (Hofferth et al., 1991). Since parent fees constitute the majority of revenues for most programs, they largely determine the characteristics and quality of care that can be provided. Thus, programs must balance affordability to parents and quality of care in setting parent fees.

Parent Fees

Almost all regulated family child care providers charge parents for care, and a large majority of centers charge at least some parent fees. However, 15 percent of centers, including subsidized programs such as Head Start and many public school programs, do not charge parents for care. Fewer than one percent of regulated family child care providers do not charge parent fees.

Excluding programs that do not charge fees, the average parent fees charged by centers and regulated family child care programs are remarkably similar. Among programs that charge for care, regulated family child care programs charge an average of $1.64 per hour, and centers charge an

average of $1.59 per hour. These fees are equivalent to approximately $64 per 40-hour week and $3,300 per year.

Fees in both centers and regulated family child care settings often vary for individual children and families, and fee schedules are sometimes complex. Fees are most likely to vary across children within a center or regulated family child care program based on the number of children from the same family (70 and 72 percent, respectively), the hours a child is in care (51 percent in both types of settings), the age of the child (39 and 37 percent, respectively), and family income (23 and 27 percent, respectively). Hourly fees charged by centers typically range from about $1.25 to $1.95 per hour, while the hourly fees charged by regulated family child care providers range from $1.30 to $1.99.

Lower-income centers (those enrolling 25 percent or more children from families receiving welfare) are significantly less likely to charge any parent fees (55 versus 97 percent). Moreover, among centers that charge fees, the average hourly fee charged by low-income centers is substantially lower than the average fee charged by higher-income centers ($1.21 compare with $1.60 per hour). While regulated family child care providers who enroll children from families receiving welfare charge average fees similar to those charged by other providers, they are much more likely to receive some fees from a government agency instead of parents.

Although low-income parents are less likely to pay for child care and, if they pay, face lower hourly fees, they spend a larger proportion of their total income on child care than do higher-income families. Families with annual incomes below $15,000 who paid for any form of care spent an average of 23 percent of their income on child care, while families with annual incomes of $50,000 or more paid an average of only 6 percent of their income on child care (Hofferth et al., 1991).

After adjusting for inflation, the average hourly fees charged by centers have not increased, while the average hourly fees charged by regulated family child care providers have increased slightly (6 percent) since the late 1970s.

Revenues from Government Sources

Parent fees constitute the primary source of revenues for most centers; however, centers that enroll at least 25 percent low-income children rely primarily on government funds to meet their budgets. On average, centers receive more than 70 percent of their income from parent fees, and centers that do not serve significant proportions of low-income children receive nearly 90 percent of their revenues from parent fees (Figure 10). Most of their remaining income comes from government agencies. In contrast, centers that enroll significant proportions of children from families on welfare receive only one-quarter of their revenues from parent fees and two-thirds of their revenues from government agencies. The types of programs receiving the majority of their revenues from government sources include Head Start programs, public-school-based centers, and other sponsored nonprofit centers.

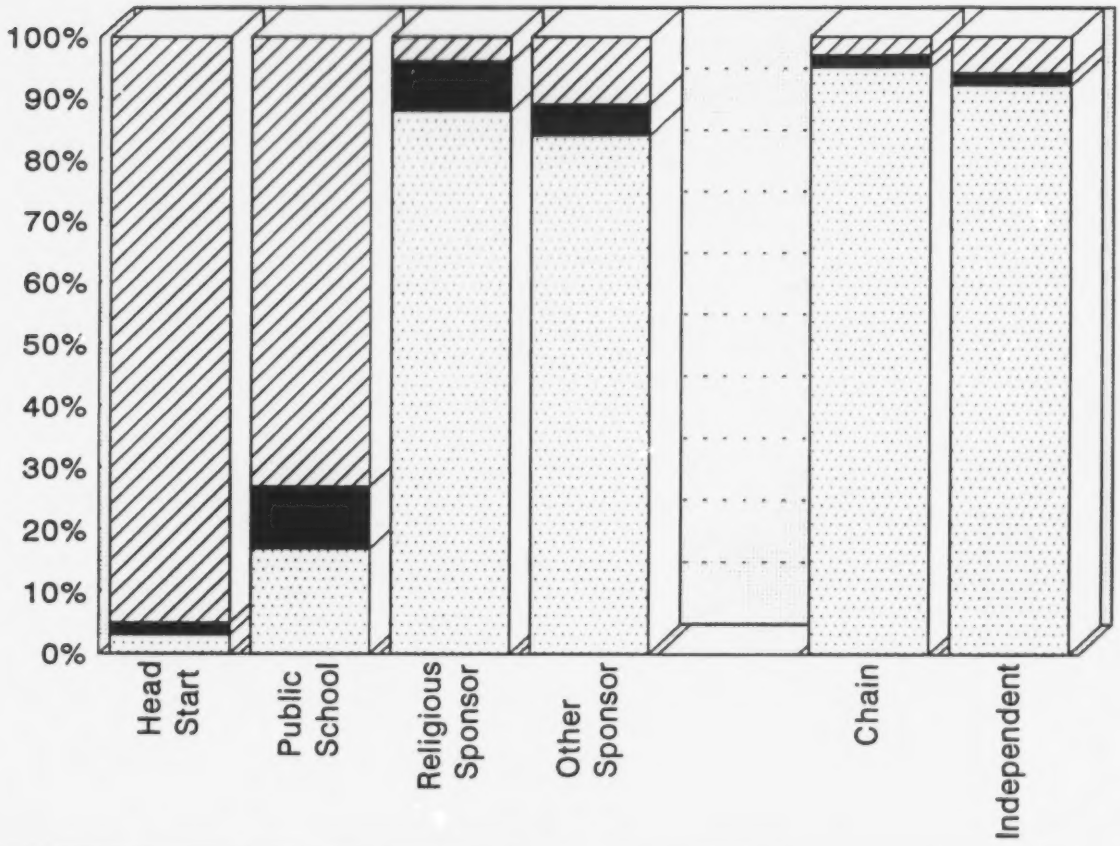
Although parent fees charged by centers have not increased since the late 1970s, direct government subsidies to centers have decreased during that period, and parent fees now constitute a higher proportion of the budgets of centers. The average percentage of the budget met with parent fees increased from 70 to 76 percent, while the average proportion of the budget met with government funds declined from 29 to 19 percent. The decline in public funding reflects shifts in federal child care financing toward consumer-based subsidies rather than direct provider subsidies.

CONCLUSION

Although the supply of formal early education and care programs has increased dramatically since the late 1970s, it does not appear to be completely adequate for meeting the needs of all families. Many centers and regulated child care programs are operating at capacity, while a significant proportion of parents of children under school age report that they would prefer another type of care, usually center-based care. Formal early education and care options appear to be more limited for children at risk of later school failure. Some formal programs will not accept children who do not

FIGURE 10

CENTERS' REVENUE SOURCES



	Head Start	Public School	Religious Sponsor	Other Sponsor		Chain	Independent
Government Funds	95%	73%	4%	11%		3%	6%
Other	2%	10%	8%	5%		2%	2%
Parent Fees	3%	17%	88%	84%		95%	92%

Nonprofit ***For-Profit***

Parent Fees | Other | Government Funds

SOURCE: Kisker et al. (1991)

speak English, children with disabilities, and/or children whose fees are paid by a public agency. Moreover, children from low-income families are less likely to be enrolled in formal early education and care programs, and their parents are more likely to report that they would like to change their child's current care arrangement to center-based care.

With few exceptions, the quality of care available in centers serving significant proportions of children from low-income families is comparable to the quality of care provided by other programs. Thus, while low-income children, who are at risk of later school failure, are not receiving lower-quality care than other children, on average, they also do not appear to be receiving higher-quality care that may compensate for their disadvantaged background and promote their school readiness.

Average group sizes, child-staff ratios, and teacher turnover have increased since the late 1970s, while teacher qualifications have improved dramatically. Nevertheless, based on group sizes and ratios, the care available in the average formal early education and care programs meets professional standards for good-quality care. However, significant proportions of programs reported group sizes and ratios that do not meet professional standards. Most notably, substantial proportions of centers do not meet NAEYC accreditation standards for group sizes and child-staff ratios for infants and toddlers.

Parent fees charged by centers and regulated family child care programs have changed little in real terms since the late 1970s. Yet, parent fees constitute the primary source of program revenues, and, due to the shift in government subsidies toward consumer-based subsidies, represent a growing proportion of program revenues. It appears that formal early education and care programs and parents have responded to the changing child care environment by providing/accepting lower quality care (in terms of group sizes and child-staff ratios) to keep parent fees affordable.

Government subsidies clearly play a critical role in making comparable formal early education and care options available to some low-income families. Programs that serve large proportions of poor children are less likely to charge parent fees, and those that collect parent fees charge lower

fees, on average, than other programs. These programs rely heavily on government funds to meet their budgets and provide care that is comparable in quality to that provided by centers not serving significant proportions of low-income children.

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